Summary of the Draft Environmental Impact Statement

INTRODUCTION

This DEIS (Draft Environmental Impact Statement) analyzes and discloses the potential site-specific environmental effects of the Monticello and Blanding Municipal Watershed Improvement Projects on resources within and around the project area on the Monticello Ranger District, Manti-La Sal National Forest. This analysis is tiered to the FEIS prepared for the Manti-La Sal National Forest Land and Resource Management Plan, as amended, hereafter referred to as the Forest Plan.

The Monticello and Blanding Municipal Watershed Improvement Projects area is located on the Monticello Ranger District, Manti-La Sal National Forest, in the Abajo Mountains of San Juan County, Utah. The project area covers approximately 20,400 acres and includes portions of the North Creek, Indian Creek, Spring Creek, Bankhead Creek, Pole Creek, South Creek, and Johnson Creek drainages (Map 1, Map 2, and Map 26).

Approximately 12,000 acres of these watershed areas are managed as Municipal Water Supply (MWS) or Watershed Protection and Improvement (WPE) under the Manti-La Sal National Forest Land and Resource Management Plan (USDA 1986). The project area is the primary water source for the communities of Monticello and Blanding, and surrounding areas.

The area includes the Horsehead (an Engelmann spruce and aspen stand in the form of a horse's head that overlooks Monticello), which has special scenic, historic, and cultural meaning to residents of the area. The Blue Mountain Inventoried Roadless Area (IRA) also extends into the project area.

CHAPTER 1

PROPOSAL

1. Authorize reconstruction of the City of Monticello's water collection and conveyance system.

2. Eliminate, abandon, or replace existing buried pipeline.

3. Upgrade or replace all of the existing water collection boxes and spring developments.

4. Construct/reconstruct a 12-foot wide temporary road/trail within a 20 to 30-foot wide corridor along the length of the pipeline to provide temporary construction access, room for equipment to maneuver for pipeline installation, and stockpile of soil and debris. The pipeline would be buried within this corridor, and the corridor would be closed to vehicle access after project completion.

5. Improve the North Creek Road, FR 50079, to a Traffic Service Level C. This would include removal of hazard trees and clearing of the road corridor, turnout construction, culvert replacement, realignment of curves/switchbacks, roadbed widening, and graveling.

6. Reconstruct approximately 0.25 mile of FR 50354 to improve alignment and drainage.

7. Construct temporary roads to facilitate log removal. Decommission these roads at the completion of timber harvest or post-harvest treatments.

8. Decommission some roads not needed for long-term transportation needs (Map 7).

9. Classify 0.1 mile of classified trail that provides access to the north end of the Blanding Water Tunnel in Indian Creek as a Forest road; reconstruct and gravel to a Traffic Level C standard.

10. Classify approximately 0.3 mile of existing unclassified road that accesses the Blanding Water Tunnel from the north (beyond the trailhead of Trail #160-Indian Creek) and south sides (Jackson Creek) as private under the City of Blanding's Special Use Permit. This road would be closed to public motorized access and would be available only for permittee or Forest Service administrative purposes.

11. Treat approximately 808 acres of spruce/subalpine fir, 926 acres aspen/spruce-fir, and 75 acres of aspen.

12. Use improvement cuts (conifer removal) and prescribed fire in mixed conifer/aspen stand areas to reduce competition from conifer species and enhance root sprouting (aspen) to maintain aspen as the dominant component.

13. Maintain appearance of the Horsehead feature while promoting recruitment and release of young seedlings in the understory.

14. Continue spruce beetle trapping, pheromone baiting, and disposal of trap and infested trees to limit spruce beetle population increases and minimize subsequent spruce mortality.

15. Implement post-harvest activities to treat existing and harvest generated fuels, prepare seedbeds for natural regeneration, plant Engelmann spruce seedlings, protect reforestation areas (natural or planted) from damage from wildlife or livestock (including gopher control as needed), and thin or weed trees less than 8 inches diameter at breast height (DBH).

The following table provides a comparison of the various outputs or specific treatment proposals of the three alternatives analyzed in detail in this document.

Figure S-1 - Alternative Summary Table

	ALTERNATIVE A NO-ACTION	ALTERNATIVE B PROPOSED ACTION	ALTERNATIVE C MODIFIED TIMBER HARVEST
PROJECT AREA (acres)	20,400	20,400	20,400
WATER SYSTEM RECONSTRUCTION			
Pipeline Reconstruction (25 Foot Average Corridor)	0 miles	FS Lands = 13 miles Private Inholdings = 2 miles	FS Lands = 13 miles Private Inholdings = 2 miles
Collection Box Construction	0 boxes	38-45 boxes	38-45 boxes
ROAD CONSTRUCTION & RECONSTRUCTION (Miles & Acres)			
Reconstruction (FR 50079 and FR 50354)	0 miles	16.3 miles	16.3 miles
Total Temporary Road Construction (Miles) & Disturbance Area (Acres) (33 Foot Clearing)	0 miles	2.3 miles 9.3 acres	2.3 miles 9.3 acres
Indian Creek Temporary Roads & Disturbance Area	0 miles	1.7 miles 6.8 acres	1.7 miles 6.8 acres
North Creek Temporary Roads and Disturbance Area	0 miles	0.4 miles 1.7 acres	0.4 miles 1.7 acres
Bankhead Creek Temporary Roads & Disturbance Area	0 miles	0.2 mile 0.8 acres	0.2 miles 0.8 acres
FOREST ROAD RECLASSIFICATION OR DECOMMISSIONING (Miles)			
Unclassified Roads Decommissioned	0	7.6	7.6
Classified Roads Decommissioned	0	0.4	0.4
Motorized Trail Decommissioned	0	0.4	0.4
Unclassified Roads to be Classified	0	0.9	0.9
Unclassified Road Classified as Private Road (closed to general public access)	0	0.6	0.6
Classified Trail Converted to Classified Road	0	0.5	0.5
Motorized Trail Converted to Non-Motorized Trail	0	0.7	0.7
HARVEST METHOD (Acres)			
Helicopter	0	1,216	1,148
Cable	0	70	70
Forwarder	0	195	189

	ALTERNATIVE A NO-ACTION	ALTERNATIVE B PROPOSED ACTION	ALTERNATIVE C MODIFIED TIMBER HARVEST
Tractor	0	328	281
SILVICULTURAL SYSTEMS (Acres)			
Even-Age System (Aspen Clearcut)	0	192 (Clearcut units less than 40 acres in size)	164 (Clearcut units 20 acres or less in size)
Uneven-Age System (Group & Individual Tree Selection)	0	1,617 (Openings less than 5 acres in size)	1,524 (Openings less than 4 acres in size)
Optional Acres	0	267	234
VEGETATION TREATMENT (Acres)			
Timber Harvest Area	0	1,809	1,688
Spruce/subalpine fir	0	808	808
Aspen/spruce-fir	0	926	820
Aspen	0	40	40
Aspen/Mixed Conifer	0	35	20
LANDING & SKID TRAIL DISTURBANCE (Acres)			
Indian Creek Landing & Skid Trail Disturbance	0	33	29
North Creek Landing & Skid Trail Disturbance	0	13	13
Bankhead Creek Landing & Skid Trail Disturbance	0	2	2
Total Landing & Skid Trail Disturbance	0	48	44
POST-HARVEST STAND TREATMENTS (Acres)			
Tree Planting (spruce seedlings)	0	180 to 190	170 to 537
Natural Regeneration	0	410 – 660	350 - 535
Jackpot Unit Burn	0	408	331
Jackpot Patch Burn	0	250	181
Lop and Scatter (limbs/tops)	0	990	990 - 1858
Weed & Thin (spruce/fir)	0	810 - 850	815 - 915
Gopher Control Baiting (spruce)	0	180 190	168 - 357
Whip Felling (aspen regeneration)	0	410 660	355 - 535
Animal Damage Fencing (aspen)	0	2 miles	2 miles

- Approximate mileages and acreages.
- Some figures may be adjusted as the analysis progresses.

PURPOSE (OBJECTIVE) OF AND NEED FOR THE PROPOSAL

The purposes (objectives) identified for this proposal and the associated needs for action are:

Objective #1: ***Cooperate with local government agencies to permit continued and more efficient collection and removal of water to the Monticello and Blanding municipal water systems for public uses. Correct existing sources of water loss and quality degradation in the City of Monticello collection/pipeline system. Improve accessibility for system maintenance for both water systems.***

Need: The City of Monticello's water collection and pipeline system is in need of extensive repair and replacement due to leakage, contamination areas, and poor placement in relation to the road. The water collection system (Map 4) consists of collection boxes and pipe installed 50 to 60 years ago. Poor installation methods, shallow burial depths, and soil erosion have exposed the pipeline to physical damage from freezing, storm runoff, and animal activity (Appendix C, page C-1). Spring collection points and pipelines have failed resulting in loss of water to the system and contamination. During the winter, sections freeze, and flow is restricted further. Because of these conditions, the city is unable to collect water needed for culinary uses at levels near those authorized by their water right. This is especially critical during periods of drought. Without immediate action to correct these conditions, the city will face a severe water shortage (USDI Bureau of Reclamation, 2001). The condition of Forest Road (FR) 50079 limits access for larger vehicles necessary for water system improvement and maintenance of both water systems.

Objective #2: ***Improve the transportation system to provide:***

- ***A. Improved and safer access for recreation uses in accordance with public desires and Forest Plan management objectives for FR 50079.***
- ***B. Improved access for administration of resources and permitted uses in the area.***
- ***C. Improved and continuing access for management of municipal water systems within the area.***
- ***D. Reduced erosion/sedimentation within the watersheds by improving drainage, replacing plugged or damaged culverts, and hardening (graveling) the road.***
- ***E. Safe, efficient, and economic removal of timber to implement proposed watershed treatments.***

Need: FR 50079 was formally designated a State of Utah Scenic Backway in 1991, and provides the only direct mountain access between Monticello and Blanding. The road is important for tourism and day recreation use, providing trail access, scenic views, hunting access, and winter recreation (cross country skiing and snowmobiling). It also provides access to private property within the Forest boundary. Much of the road is inadequate for use by larger vehicles, pickups with trailers, and passenger cars due to tight curves/switchbacks, insufficient aggregate surfacing (graveling), and minimal turnouts. Erosion occurs on portions of the road surface due to plugged culverts, poor drainage, and lack of hardening (gravel) (Appendix C, page C-2). FR 50354 is also in need of some improvement to provide improved access to the existing trailhead.

Objective #3: ***Move towards restoration of the ecological structure, function, processes, and composition of the spruce and aspen component of the project area through:***

- ***A. Restoration of stand conditions that promote non-stand replacing fire regimes, sizes, and intensities to reduce the risk of uncharacteristic wildfire effects within the municipal watershed area.***
- ***B. Improved stand resistance to insects and disease.***
- ***C. Vegetation treatments may minimize the extent of spruce mortality within the Horsehead and surrounding area, maintain the visual character of the area, and promote aspen regeneration.***
- *D.* ***The quality and quantity of water produced from these watersheds could be maintained or improved through the following:***
  - *1) Long-term maintenance of vegetation layers, ground cover, and soil organic layers to encourage infiltration, maintain soil stability, slow overland flow, and associated erosion, and maintain soil productivity.*
  - 2) *Continued growth of vegetation (aspen) that provides structural diversity and quick recovery from disturbance.*
  - 3) Sustained, long-term debris recruitment to stream channels/riparian areas rather than short-term heavy debris loads.

Need: An outbreak of spruce beetle (*Dendroctonus rufipennis*) has recently occurred in and around the project area (Map 21). Spruce-fir stands have a moderate to high hazard of spruce beetle attack (Anhold 2000; Hebertson 2002). Due to these conditions, up to 90 percent of the large diameter spruce (>10 inches DBH) have a high risk of mortality over the next 5 to 10 years in the absence of treatment (Dymerski 2000). Potentially high levels of spruce mortality within the project area could have the following effects:

- Widespread tree mortality could affect scenic quality and result in the loss of a local landmark, the Horsehead.
- Although large wildland fires are generally rare and fire return intervals are long in the spruce zone, extensive mortality of the dominant tree species would result in long-term increases in fuel loads (50 or more years). A fire starting in the area during dry, windy conditions when fuel loads are high and ladder fuels (brush and young trees) are prevalent could expand into uncharacteristic fire(s). Fire of this nature could negatively affect the municipal watersheds, associated resources, and cultural values of the area.
- The aspen component of the area has been declining due to the lack of fire and other disturbance in the area that would remove encroaching conifers and allow clones to regenerate. Continued loss of aspen could negatively affect wildlife habitat and result in stands less resilient to disturbance.

HISTORY OF THE PLANNING AND SCOPING PROCESS

Public involvement has been extensive throughout the planning and development of this project. In October 1999, local organizations and government agencies were contacted,

and their representatives participated in a Plan-to-Project assessment of the municipal water supply area. Field reviews and meetings were conducted in conjunction with this assessment.

A scoping letter for the Monticello and Blanding Municipal Watershed Improvement Projects analysis was sent out for public review on March 19, 2001. The letter was mailed to 472 individuals, organizations, and agencies. Public notices were published in the San Juan Record (San Juan County, Utah), Sun Advocate (Carbon County, Utah), Times Independent (Grand County, Utah), and The Blue Mountain Panorama (Blanding, Utah). Two public meetings were held (in Blanding and Monticello) on March 20 and 21, 2001. Thirty-five individuals attended the public meetings. A Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) was published in the Federal Register on March 29, 2001.

Letters and comments were received from individuals, organizations, private businesses, and local, state, and federal government agencies. A team of resource specialists analyzed the contents of each letter and identified issues that were relevant to the analysis, project design, and development of alternative actions. Following this review, the Forest Supervisor selected the issues and alternatives analyzed in this document. A detailed summary of public involvement efforts is found in Chapter 4.

RELEVANT PLANNING DOCUMENTS

Federal and state law, including the Forest and Rangeland Renewable Resources Planning Act (RPA), National Forest Management Act (NFMA), National Environmental Policy Act (NEPA), Threatened and Endangered Species Act, and the Clean Water Act, guided analysis for this project.

Development of this EIS follows implementing regulations of the National Forest Management Act (NFMA); Title 36, Code of Federal Regulations, Part 219 (36 CFR 219); Council on Environmental Quality, Title 40; Code of Federal Regulations, Parts 1500-1508 (40 CFR 1500-1508); and the National Environmental Policy Act (NEPA).

This analysis is tiered to the Final Environmental Impact Statement (1986) for the Manti-La Sal National Forest Land and Resource Management Plan (Forest Plan), as amended, which provides general management direction for the Manti-La Sal National Forest. Amendments include the recent Utah Northern Goshawk Forest Plan Amendment (USDA Forest Service 2001), the Utah Fire Plan Amendment (USDA Forest Service 2001), and earlier Forest Plan amendments (project file).

To decrease the size of this document and the degree of redundancy to the contents of other documents, some material in this document tiers to or incorporates by reference other material (Chapter 6).

FOREST PLAN MANAGEMENT AREA GOALS, STANDARDS, AND GUIDELINES

The predominant management prescription for areas proposed for treatment or disturbance is MWS (Municipal Water Supply) (Forest Plan, III-74 to III-76). The management emphasis is for production of water for municipal uses. On these units, maximizing herbaceous ground cover and minimizing surface disturbing activities is the overall direction. Some limited land uses that do not degrade water quality or disrupt the watershed or source areas may occur. Acceptable activities include the following:

- Timber Resource Management – Provide for harvest of forest products when the activity would improve water production and/or does not adversely affect water quality.
- Wildlife Habitat Improvement and Maintenance – Permanent wildlife openings or other habitat improvements may be installed, provided they can be done without adversely affecting water quality.
- Transportation System Management – Allow new roads only if needed to meet MWS management emphasis or temporary roads to meet limited resource needs.
- Dispersed Recreation Management – Close all or portions of the unit to vehicular travel except as authorized. Allow light dispersed recreation, such as hiking, but not overnight camping.

Other management prescriptions applying to the project area include:

- WPE-Watershed Protection/Improvement (Forest Plan, III-77 to III-79) – Management emphasis is for watershed protection and improvement in areas where watershed treatments (i.e., contour trenching and furrowing) have been, or should be, applied, and where other use restrictions are implemented to protect on-site and downstream values from flooding and sedimentation.
- TBR-Timber Management (Forest Plan, III-67 to III-68) – Management emphasis is for the production and use of wood-fiber for a variety of wood products.
- RNG-Range Management (Forest Plan, III-64 to III-66) – Management emphasis is on production of forage and cover for domestic livestock and wildlife.
- DRS-Developed Recreation Sites (Forest Plan, III-47 to III-51) – Management emphasis is for developed recreation facilities (campgrounds).

DECISIONS TO BE MADE

The Responsible Official for this proposal is the Forest Supervisor of the Manti-La Sal National Forest. The Responsible Official will make a decision and document it in a Record of Decision (ROD) following release of the Final Environmental Impact Statement. The Responsible Official will decide:

- Whether to allow reconstruction of the City of Monticello's water collection system with associated equipment access;

- Whether to allow proposed changes in the management of existing road or travel corridors, including reconstruction of FR 50079 and a portion of FR 50354, and construction of temporary roads required to implement proposed harvest treatments;
- Whether to allow harvest of trees and, if so, the location, methods of harvest, silvicultural diagnosis (treatment to be applied), and associated post-harvest activities;
- What, if any, additional measures are necessary to implement a decision;
- What, if any, specific project monitoring requirements are needed to assure selected measures are implemented and effective; and
- Whether to approve a Forest Plan Amendment to allow dewatering in the Gold Queen, Dickson Gulch, and Bankhead areas.

SIGNIFICANT AND KEY ISSUES STUDIED IN DETAIL

Significant Issues

Significant Issues are those that were used in the development of alternatives to the proposed action. These issues are analyzed in detail. Two issues, relative to the proposed action, were found to be Significant Issues.

- ***FOREST VEGETATION*** - Proposed timber harvest and associated treatments, or disturbance from spruce beetle epidemic or fire may impact the composition, structure, disturbance regimes, and patterns of distribution of forest vegetation within the project area.

- ***WILDLIFE RESOURCES (Northern Goshawk & Three-Toed Woodpecker)*** Implementation of the proposed actions, insect epidemic, or fire occurrence may impact the habitat and behavior of the northern goshawk or three-toed woodpecker (Region 4 designated Sensitive Species).

Key Issues

Key Issues were not used to develop additional alternatives, but were carried forward in the analysis in order to provide a comparison of the alternatives and their effects. These issues are analyzed in detail in this document. Five issues, relative to the proposed action, were found to be Key Issues.

- ***WILDLIFE RESOURCES (Deer and Elk)*** - Implementation of the proposed actions, insect epidemic, or fire occurrence may impact the habitat and behavior of deer and elk (Management Indicator Species – MIS) populations.

- ***TRANSPORTATION SYSTEM*** - Implementation of the proposed or no action alternatives may impact public access and safety.

- ***VISUAL LANDSCAPE*** - Proposed timber harvest treatments and associated temporary roads, landings, and skid trails, water system construction corridors, insects, or fire may impact the visual character of the area and the Horsehead.

- ***RECREATION*** - Implementation of proposed activities may affect recreation settings, opportunities, and uses within the area.

- ***MUNICIPAL WATERSHED*** - The municipal water supply may be impacted by proposed vegetation treatments and associated disturbances, water system construction, increased recreation from reconstruction of FR 50079, spruce beetle induced tree mortality, or fire.

CHAPTER 2

Chapter 2 is the heart of this environmental impact statement, as described in 40 CFR 1502.14. This chapter describes the alternatives, including no action, considered for the Monticello and Blanding Municipal Watershed Improvement Projects and summarizes how the alternatives address the Purpose and Need and Issues presented in Chapter 1.

ALTERNATIVES CONSIDERED IN DETAIL

A No-Action alternative (Alternative A) and two action alternatives (Alternatives B and C) were developed and considered in detail. These alternatives, along with those considered but not studied in detail (Section 2.2), represent a reasonable range of alternatives for this project, defining the significant issues, while responding to the identified purpose and need.

Alternative A – No-Action
Alternative A addresses the requirement to provide a "No Action" alternative. Current management of the area would continue, minus continuation of spruce beetle trapping and baiting treatments that have occurred in the area since 1999. No reconstruction of the City of Monticello's water collection and conveyance system would occur at this time. Only spot maintenance would occur on the existing water system, as needed. No roads would be constructed, reconstructed, decommissioned, or added to or removed from the Forest infrastructure. Deferred road maintenance would be implemented as appropriate/allowed under existing NEPA including, but not limited to, grading, hazard tree removal, clearing, spot graveling as needed, and culvert repair/replacement. No timber harvest treatments would occur.

Alternative B
Alternative B emphasizes reduction of the risk of development of epidemic spruce beetle populations within the project area and provides intensive management for the regeneration of aspen.

Vegetation Treatments
Approximately 808 acres of spruce/subalpine fir, 926 acres of aspen/spruce-fir, and 75 acres of aspen would be silviculturally treated (harvested) to develop a more diverse,

open ecosystem. Total treatment would occur on approximately 1,809 acres. Of this area, 267 acres would be considered optional at the time of project implementation due to distance from roads which may preclude offer of an economically viable contract package (Map 14). Logging methods would include helicopter (68%), tractor/forwarder (28%), and cable (4%).

Within spruce and spruce-fir stands, silvicultural (harvest) methods would include thinning, group selection (patch cuts), overstory removal (cutting of larger, upper canopy trees to release trees in the lower canopy level), sanitation (removal of infested or diseased trees), and salvage (harvest of dead, damaged, and dying trees). Most spruce trees greater than 18 inches DBH would be removed from treated stands while thinning to bring stand density to between 100 and 120 square feet of basal area (cross-sectional area of the stems per acre at breast height). Clumps of two to nine trees would be limited to non-spruce or isolated spruce surrounded by other tree species and would cover less than 40 percent of treated acres. Small openings (patch cuts, one to five acres in size) would be created in about 20 percent of the treated areas to diversify structure by regenerating spruce, fir, and aspen. Treatments would be designed to reduce stand susceptibility to spruce beetle attack to a low to moderate level, improve size and age diversity, and maintain Engelmann spruce as the primary component.

In aspen and some mixed conifer/aspen stands, treatments would include large and small clearcuts (less than 40 acres in size) designed to regenerate all or portions of existing mature and old aspen clones. The desired future condition for these stands would be retention of or an increase in aspen community. About 192 acres would be treated under an even-aged silvicultural system (Map 12).

Figure S-1 displays an estimate of acres that would need reforestation, fuels reduction, thinning, or weeding of trees less than eight inches DBH, or protection treatments following timber harvest.

Alternative C

This alternative was developed to address the Wildlife Resource issue (Chapter 1) and concern that timber harvest treatments in the proposed action may affect habitat of the northern goshawk and three-toed woodpecker (Region 4 Sensitive species). Under Alternative B, the size of openings and emphasis on removing many of the larger diameter spruce trees while thinning in a more uniform manner than prescribed by the Forest Plan may affect the habitat of this species. Vegetation treatments have been modified in Alternative C to address these concerns.

Nesting habitat of the three-toed woodpecker may be affected by timber harvest identified in the proposed action. This alternative analyzes additional protection of three-toed woodpecker habitat by removing some areas from potential treatment.

Vegetation Treatments

Vegetation treatments are the same as described for Alternative B with the following changes:

- Northern goshawk management guidelines would be implemented in timber harvest treatments.
- Aspen regeneration treatments would be implemented in units of 20 acres or less. Proposed aspen regeneration treatments where clearcut area would exceed five acres in size are identified on Map 13.
- Group regeneration openings in spruce areas would not exceed four acres in size (except in areas of dead salvage).
- Nesting territories of the three-toed woodpecker would not be harvested.

Approximately 808 acres of spruce/subalpine fir, 820 acres of aspen/spruce-fir, and 60 acres of aspen would be silviculturally treated (harvested) to develop a more diverse, open ecosystem. Total treatment would be approximately 1,690 acres. Of the treated area, 234 acres would be considered optional at the time of project implementation due to distance from roads, which may preclude the offer of an economically viable contract package. Logging methods would include helicopter (68%), tractor/forwarder (28%), and cable (4%).

Within spruce and spruce-fir stands, treatments would be accomplished through silvicultural (harvest) methods that include thinning, group selection (patch cuts), overstory removal, sanitation, and salvage. Spruce trees generally greater than 18 inches DBH would be removed from treated stands while thinning to bring stand density to between 125 and 135 square feet basal area. Thinning would be accomplished in a manner that would provide a clumpy configuration for northern goshawk habitat. Clumps of two to nine trees would be evident in over 40 percent of treated areas. Group regeneration openings in spruce areas would not exceed four acres in size (except in areas of dead salvage). These openings (patch cuts, one to four acres in size) would be created in about 15 percent of the treated areas to diversify structure by regenerating spruce, fir, and aspen.

Size of treatment blocks in aspen and some mixed conifer/aspen stands is reduced in this alternative. Treatments would include large and small clearcuts (20 acres or less in size) designed to regenerate all or portions of existing mature and old aspen clones. Retention of or an increase in aspen community would be the desired future condition for these stands. About 164 acres would be treated under an even-aged silvicultural system.

Figure S-1 displays an estimate of acres that would need reforestation, fuels reduction, thinning or weeding of trees less than eight inches DBH or protection treatments following timber harvest.

Elements Common to Alternatives B and C

Information on elements common to the action alternatives can be found in Section 2.3.2, Chapter 2.

Water System Improvement/Relocation – The City of Monticello would be authorized to reconstruct their water collection and conveyance system located on National Forest System lands.

Road Improvement, Construction, and Reclassification – The North Creek Road, FR 50079 (approximately 16 miles), would be improved to a Traffic Service Level C to accommodate passenger vehicles. This would include removal of hazard trees and clearing of the road corridor, turnout construction, culvert replacement, realignment of curves/switchbacks, roadbed widening, and graveling.

Additional road construction, reconstruction, maintenance, and reclassification proposed for implementation of timber harvest, water system reconstruction, future management of the Monticello and Blanding municipal water systems, and correction of current errors in the existing Forest Road and Trail database would occur.

Vegetation Treatments - Treatment of the Horsehead spruce stand would be less intense than other vegetation treatments. The appearance of the feature would be maintained while promoting recruitment and release of young seedlings in the understory by retaining 140 to 180 square feet of basal area per acre.

As determined appropriate through monitoring by an Entomologist and Silviculturist, spruce beetle trapping, pheromone baiting, and disposal of trap and infested trees would continue in the project area during the five-year implementation period to limit spruce beetle population increases and minimize subsequent spruce mortality.

Prescribed post-harvest activities would be implemented to treat existing and harvest generated fuels, prepare seedbeds for natural regeneration (Engelmann spruce and aspen), plant Engelmann spruce seedlings, protect reforestation areas (natural or planted) from damage from wildlife or livestock, and to thin or weed trees less than 8 inches DBH.

FOREST PLAN AMENDMENT

Selection of Alternatives A, B, or C would require a site-specific, non-significant amendment to the Manti-La Sal National Forest Plan. This amendment applies to the City of Monticello's water collection and conveyance system and associated maintenance and proposed reconstruction. Amend Wildlife and Fish Resource management 04, 05, Amendment to the Forest Plan (dated April 14, 2002) Standard X, page CC-63, which states: "When non-vegetative management activities (for example: …utility corridors, etc.) are proposed that would result in loss of suitable goshawk habitat, sufficient mitigation measures will be employed to insure an offset of the loss".

Amend the Forest Plan as follows for implementation of Alternative A – No-Action: "Allow dewatering in the Gold Queen, Dickson Gulch, and Bankhead areas, using those mitigation measures established under the existing special use permit to offset the loss of suitable goshawk habitat whenever possible." Existing water troughs are used to mitigate dewatering during maintenance of the City of Monticello's water collection and conveyance system.

Alternative A, No-Action, allows maintenance of the existing water system under the

current special use permit. The City of Monticello's right to water from the Gold Queen, Dickson Gulch, and Bankhead areas, their permit, and installation of the water system was established prior to the 2002 Forest Plan Amendment and the Forest Plan (1986). Initial dewatering occurred when the system was constructed. Gradual degradation of the system has allowed water to escape which increased numbers of wet areas or water within stream channels. The existing permit allows the City of Monticello to maintain their system. Some dewatering of wet areas and changes in streamflow would occur as spot repairs are made as authorized by the existing permit.

Amend the Forest Plan as follows for implementation of Alternatives B or C : "Allow dewatering in the Gold Queen, Dickson Gulch, and Bankhead areas, using mitigation measures to offset the loss of suitable goshawk habitat whenever possible." Water troughs, guzzlers, overflow valves, and line meters to monitor collection volumes would be used to mitigate dewatering during reconstruction of the City of Monticello's water collection and conveyance system.

A discussion of effects of alternative implementation can be found in Chapter 3.

IDENTIFICATION OF THE PREFERRED ALTERNATIVE

A preferred alternative has not been identified for the Monticello and Blanding Watershed Improvement Project.

CHAPTER 3

The following table provides a comparison of the effects of the alternatives on the significant issues and their indicators. Information in this section is based upon the resource information detailed in Chapter 3.

Figure S-2. Comparison of Alternatives by Issue

ISSUE	ALTERNATIVE A		ALTERNATIVE B		ALTERNATIVE C	
ISSUE #1 – FOREST VEGETATION						
Spruce-fir stands treated (acres)	0		657-808		657-808	
Spruce-fir regenerated (acres)	0		131-162		117-139	
Spruce beetle Risk Rating (average)	Moderate to High		Moderate		Moderate	
Aspen treated (acres)	0		75		60	
Aspen regenerated (acres)	0		75		60	
Structural class distribution by forest type (acres):						
Spruce/subalpine fir	Short-term	Long-term	Short-term	Long-term	Short-term	Long-term
Early	0	0	162	194	139	415
Young	0	397	0	397	0	261
Mid-Aged	30	1,191	30	383	30	400
Mature	1,558	0	1,396	614	1,419	512

ISSUE	ALTERNATIVE A		ALTERNATIVE B		ALTERNATIVE C	
Aspen/spruce/subalpine fir						
Early	0	0	162	194	91	273
Young	0	582	0	582	0	945
Mid-Aged	292	1,647	292	838	292	674
Mature	1,934	0	1,775	615	1,846	337
Aspen/mixed conifer						
Early	0	0	192	192	150	150
Young	29	29	29	29	29	29
Mid-Aged	3,288	3,288	3,288	3,288	3,288	3,288
Mature	2,500	2,500	2,308	2,308	2,350	2,350
Vegetation Type change (acres):						
Aspen/Mixed Conifer	0		192		164	
Aspen/Spruce-Fir	0		189 - 216		181 - 204	
Spruce/Subalpine-Fir	0		0		0	
Slash treatment (acres)	0		1,809		1,688	
Large fuel reduction (acres harvested)	0		1,809		1,688	
Predicted rates of spread (chains per hour)	2003 – 3.9 to 3.4 2092 – 12.6 to 13.3		Post-harvest–25.5-28.0 2092 – 1.6 to 2.6		Post-harvest-27.0-29.1 2092 – 9.9 to 12.1	
Predicted potential for escape (low, moderate, high)	2003 – Low 2092 – High		Post-harvest – High 2092 – Low		Post-harvest - High 2092 – Moderate-High	
ISSUE #2 – WILDLIFE RESOURCES						
Northern goshawk:						
Acres of habitat meeting Forest Plan guidelines	Short-term – 9,634 Long-term – 6,142		Short-term – 9,121 Long-term – 7,179		Short-term – 9,634 Long-term – 6,841	
Impact determination	Short-term-No impact Long-term-MII*		Short-term-MII* Long-term-MII*		Short-term-No impact Long-term-MII*	
Three-toed woodpecker:						
Acres disturbed	Short-term - 0 Long-term – 3,492		Short-term - 513 Long-term – 2,455		Short-term - 377 Long-term – 2,793	
Aspen regeneration	Short & long-term - 0		Short & long-term-192		Short & long-term-164	
Impact determination	Short-term -Beneficial Long-term - MII		Short-term-MII* Long-term-MII*		Short-term-MII* Long-term-MII*	
Deer and Elk:						
Forest canopy opened to allow increased ground vegetation (acres)	Short-term - 0 Long-term - 3,492		Short-term - 513 Long-term – 2,455		Short-term - 377 Long-term – 2,793	
Aspen regeneration (acres)	Short/long-term - 0		Short/long-term-192		Short & long-term-164	
Forage habitat assessment	Currently – 42.58% Long-term: 45%:55%		Long-term - 47%:53%		Long-term - 49%:51%	
Road Density (miles per square mile)	Short-term-2.3 Long-term – 2.3		Short-term - 2.4 Long-term - 2.2		Short-term - 2.4 Long-term – 2.2	
Changes in road standard (miles)	0		16 miles improved		16 miles improved	
Vulnerability assessment (as related to road density)	Less Vulnerable 61.2% loss of habitat effectiveness		More Vulnerable Short-term – 72% loss of habitat effectiveness Long-term – 65.0% loss of habitat effectiveness		More Vulnerable Short-term – 72% loss of habitat effectiveness Long-term – 65.0% loss of habitat effectiveness	

ISSUE	ALTERNATIVE A		ALTERNATIVE B		ALTERNATIVE C	
ISSUE #3 – TRANSPORTATION SYSTEM						
Road Reconstructed (miles)	0.0		16.3		16.3	
Motorized Trail (miles)	13.3		11.8		11.8	
Forest Road Standard (FR 50079) Operational Maintenance Level Traffic Service Level	 ML2 TSLD		 ML3 TSLC		 ML3 TSLC	
Safety analysis (high, moderate, low)	Moderate		Moderate		Moderate	
ISSUE #4 – VISUAL LANDSCAPE						
Visual Quality Objective (VQO) changes						
Partial Retention (acres)	18,819		18,819		18,819	
Modification (acres)	541		541		541	
Private Land (acres)	1,040		1,040		1,040	
Scenery Management changes						
Natural Appearing (acres)	No change		No change		No change	
Cultural (acres)	No change		No change		No change	
Horsehead Appearance: Distinct appearance/shape retained? (yes/no)	No		Yes		No	
ISSUE #5 – RECREATION						
Recreation Opportunity Spectrum (ROS) met (acres)						
Private Land	1,040		1,040		1,040	
Roaded Natural	13,810		13,810		13,810	
Semi-Primitive Motorized	1,962		1,962		1,962	
Semi-Primitive Non-Motorized	3,588		3,588		3,588	
ISSUE #6 – MUNICIPAL WATERSHED						
Erodibility and Susceptibility to compaction: Ground disturbance following project completion(acres)						
Indian Creek	144		220		216	
Spring Creek	106		30		30	
North Creek	278		459		459	
Johnson Creek)	2,322		2,418		2,418	
Ground Disturbance recovery 10 years following project completion (acres)						
Indian Creek	144		165		165	
Spring Creek	106		106		106	
North Creek	278		304		304	
Johnson Creek)	228		259		259	
Degree meets State Support of Beneficial Uses (full, partial, or not)	Not		Full		Full	
Meets State Antidegradation Policy (yes/no)	Yes		Yes		Yes	
Resiliency of the watershed (high, medium, low)	Short-Term	Long-Term	Short-Term	Long-Term	Short-Term	Long-Term
Indian Creek	High	Low	High	Low**	High	Low**
Spring Creek	High	Low	High	Low	High	Low
North Creek	High	Low	Moderate	Moderate	Moderate	Moderate
Johnson Creek	High	Low	High	Moderate	High	Moderate

*May impact individuals
**Low overall; Moderate in headwaters

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